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"Psi" R&D: Congress Gets Favorable Report

A cautious but generally optimistic assessment of "psi," or parapsychology, research, and its possible applications to civilian and military purposes, is contained in an unpublished report by the Science Policy Research Division of the Congressional Research Service (CRS).

A main point of the report is that psi research is a starveling in the US—running on less than $500,000 a year, apparently all in private funds—while support in the Soviet Union is "variously speculated to amount to tens of millions of dollars..." Among the potential applications mentioned by the report is the revolutionary possibility of psycho-kinetic, or mind-induced, "disturbance of the memory functions of single microelectronic chips." Also included in a listing of "a wide variety of applications" is "interspecies communication...military intelligence and police work; personnel management; psychotherapy and counseling; scientific discovery, and numerous others, including crime, persuasion, mischief, and disinformation."

House Votes Big Boost For NIH Budget — Page 8

Titled "Research into 'Psi' Phenomena: Current Status and Trends of Congressional Concern." the report was issued last June in response to what its introduction describes as "Congressional requests" received in 1982. It seems safe to say that most disbelievers would consign much of its contents to the crackpot file. But be that as it may, the 35-page report bears the imprimatur of the highly respected CRS, which, as part of the Library of Congress, works exclusively for members and committees of the Congress.

Prepared by Christopher H. Dodge, a specialist in life sciences in the Science Policy Division, the report is derived from a survey of psi literature, with most credit going to a study by Robert Jahn, Dean of the School of Engineering and Applied Science at Princeton University, "The Persistent Paradox of Psychic Phenomena: An Engineering Perspective" (Proceedings of the IEEE, v. 70, no. 2, 1982). Dodge described himself to SGR as an "agnostic" on psi-related matters.

While the report concedes the possibility that research into so-called psi phenomena may eventually prove fruitless, the general tone is optimistic. "The evasiveness of psi phenomena under carefully controlled and observed conditions seems presently to be the most compelling criticism of the field in general," the report states. But it goes on to observe that "Many other scientific endeavors in early stages of investigation have proven to be frustrating to the investigator because of a lack of understanding of the phenomenon under scrutiny. Radiation biology is an example of such a dilemma. In the very early stages of research into the interactions of ionizing radiations with biological systems, there was almost a total lack of appreciation for the health effects of acute doses of radiation...despite the fact that the physics of producing the radiation was well understood."

The report also states, "It would be misleading to leave the reader with the impression that psi phenomena, as they are presently understood, are generally rejected by the public and by sciences. Indeed, quite the opposite would seem to be true. All polls

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In Brief

The new frost in east-west relations has not interfered with plans for the next session in a series of unofficial arms control talks held twice yearly by senior Soviet and American scientists. The meeting, scheduled for October 17-20 in Moscow, is co-sponsored by the Soviet Academy of Sciences and the National Academy of Sciences. The US delegation, totaling about a dozen, will be headed by M.L. Goldberger, President of Caltech.

Senior staff continues to jump ship at the White House Office of Science and Technology Policy. Following three other Assistant Directors over the rail, John Marcum, Assistant Director for Energy and Natural Resources, is reported to have accepted a job at the Paris-based Organization for Economic Cooperation and Development. And the number two staffer, Deputy Director Ronald D. Frankum, is reported to be looking elsewhere. Two theories are offered for the exodus: (1) Job hopping is not unusual as an administration approaches the final year of its term; (2) Director George A. Keyworth's casual administrative style and frenetic pace are driving them away.

Precursor of a drive to add an Institute of Immunology to the NIH family? The House Appropriations Committee has directed NIH to inventory immunology research and recommend priorities and "optimum" funding. NIH-boosting health lobbyists, still hoping to establish a long-sought Arthritis Institute, have hinted that immunology would be next.

"Metal-Bending Parties" Draw High Government Brass

It's easy to find speculation that defense and intelligence agencies are involved with "psi" research, if only to maintain contact with a field in which the Soviets are said to be deeply involved. But there's no publicly available evidence of current US involvement with the subject. If there is government psi support, it was suggested to SGR, it's likely that it's under cosmetic titles to avoid ridicule. The Congressional Research Service says psi research is underway in 20 US universities, but apparently it's all privately financed.

The CRS review of psi research says that between 1971 and 1978, 21 proposals were submitted to federal agencies, and two were funded, both, SGR has been told, by the National Institute of Mental Health. CRS says funding totaled $179,500, and that both projects have long since expired.

Within the federal bureaucracy, there's an informal and deliberately inconspicuous network of government employees—a number of them in science-related jobs—who are seriously interested in the subject. Now and then they get together at "metal-bending parties," where, according to one source, guests recently included a cabinet undersecretary and the deputy director of a federal agency. Both were said to be overwhelmed by their experiences and may even have joined the ranks of "closet metal benders."

SGR hears that some psi enthusiasts perform afterhours research in well-equipped government laboratories, but we can't confirm that.

The extent and significance of Congressional interest in the subject is also difficult to ascertain. Clearly, there's some interest there, since the CRS study was carried out in response to Congressional inquiries. In 1979, CRS assisted a Capitol Hill futurist group, known as the Congressional Clearinghouse on the Future, in holding a series of meetings on what CRS describes as "a variety of esoteric subjects." These included sessions on "Psychic Discoveries Behind the Iron Curtain," "Remote Viewing," and "Implications of Mind Research."

The introduction to the CRS psi report says, "These well-attended presentations elicited considerable interest on the part of certain members, their staffs, and the staffs of certain House and Senate committees. Over the past three years, Congressional interest in the subject has remained as the subject has received increasing attention by the news media."

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of both the public and the scientific community in recent years have yielded evidence of a generally positive attitude toward the existence and relevance of psi phenomena as a class and research into them."

"In addition," the report continues, "a number of recent experiments have yielded more or less consistent positive results under rigorous conditions of investigation, even though the mechanisms of these functions remain unexplained. It is also worthy to note that historically, psi phenomena have been reported with striking consistency across a whole spectrum of human conditions, both natural and experimental."

In a closing section that starts with a bow to the possibility nothing may be there, after all, the report provides an upbeat vision of what may lie ahead if the psi research pans out.

"If, on the other hand, certain psi phenomena and functions prove to be amenable to scientific replication, prediction and control, then quite another prospect comes into play. Results of recent psi research suggest that some psi phenomena can be acquired and repeated fairly reliably, if less than ideally, under well designed and controlled conditions. This suggests to some critical observers that there *may* be an interconnectiveness of mind with mind and mind with matter. It is also inferred from some preliminary positive results that information might be accessed over time and space. If these suspicions are subsequently confirmed, then the ability of humankind to control these phenomena functionally and repeatedly becomes a realistic goal of psi research. The implications of such a development for society and government are, simply stated, vast in three fundamental categories: 1. acquisition of knowledge; 2. practical applications of psi knowledge, and 3. depending upon such applications, the possibility of general enhancement of the human condition."

Getting to specifics, the report states that "in the area of education, the ability of the human mind to obtain information purposefully in a heretofore 'intuitive' (i.e., 'gut-feeling') manner could have a significant impact on decisionmaking theory and practice and on traditional approaches to training the human mind in educational and vocational settings."

And, along with a respectful reference to the "established practice in this country and abroad, particularly in the Soviet Union," of "dowsing or divining for water, oil, and other minerals," the report states, "It seems likely to expect that such functions as remote perception, precognition, and retrocognition are of potential interest to intelligence agencies, law-enforcement units, and activities involving surveillance. For example, 'emotional imprints' have already been

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Genetic-Control Issue Revives Old Activists

An organization skeptical of the National Institutes of Health's stewardship over genetic-engineering safeguards was launched last month, and it boasts a collective leadership that's likely to pose a serious challenge to NIH's long dominance in the field.

In terms of ideological placement, the Boston-based newcomer, titled the Committee for Responsible Genetics, appears to be situated between latterday moratorium cranks and NIH's reigning Recombinant DNA Advisory Committee (RAC), which has generally taken an anything-goes stance toward experimentation and industrial applications.

Among the Committee's founders are Jonathan King and Sheldon Krimsky. King is a genetecist at MIT and a frequent critic of the RAC, a panel of scientists and lawyers and an occasional layman that reviews research proposals involving RDNA. Krimsky, a Professor at Tufts University in Boston with a background in physics and economics and a specialty in the philosophy of science, is a former member of the RAC, where he preached caution as the RAC sought, over the years, to relax restrictions on genetic experimentation.

Other members include Anthony Robbins, who was Director of the US National Institute for Occupational Safety and Health under Carter, and is now a staff member with the House Committee on Energy and Commerce; Barry Commoner, Director of the Center for the Study of Biology of Natural Systems in New York City; and David Ozonoff, of the Boston University School of Public Health, who is Director of the Public Health Association of Massachusetts.

Professor Richard Novick, another board member, researches and teaches plasmid biology at New York University, but his avocation is monitoring the military interest in gene splicing. Another member is Eula Bingham, Director of the Occupational Safety and Health Administration under Carter.

Representing labor is Tony Mazzocchi, former Vice President and Health and Safety Director of the Oil, Chemical and Atomic Workers International Union of the AFL-CIO. Genetic engineering and the business that is springing up around it "are like the nuclear and chemical industries...you just can't accept what someone tells you," says Mazzocchi.

The Committee traces back to two now-defunct organizations of the 1970s, both inspired by concerns about unfortunate societal effects of science and technology—the Coalition for Responsible Genetic Research and the Coalition for Reproductive Rights of Workers. About two years ago, persons who had been associated with the groups decided it was time to revive the movement.

One of them is Terri Goldberg, a public-interest veteran, who is to be the Committee's full-time staff member. "We are trying to develop a public-interest, educational organization," says Goldberg. "We want to see this technology develop for the good of the most people...not like some technologies in the past that have benefited only a few."

Says Krimsky: "We thought there was a void in this area. We will pick up on missed opportunities." High among these, in the plans of the Committee, is public education about genetic engineering, which, it says, has been neglected by the RAC and the burgeoning genetic-engineering industry.

Among the subjects of the Committee's education program—which will take the form of a newsletter, public lectures and conferences, and a speakers bureau—are genetic screening of workers by employers,

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used to trace past events in archeological and police investigations."

More money—how much is not specified—will be required to search for these possible benefits, the report states. But, regardless of the results, the process can only lead to a rare no-lose outcome, in the view of the Congressional Research Service: "Whether or not psi is a real or usable phenomenon, the recognition that psi may be able to enhance the human condition could have far-reaching implications for science and the society it serves."—DSG

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...RAC Squirming Under Unaccustomed Spotlight

prenatal screening for genetic defects, experimentation with species' germlines and the release of genetically altered organisms into the environment.

Goldberg makes a point of distinguishing the Committee from other public-interest groups in the field. Specifically, that means Jeremy Rifkin, who has spoken, written and demonstrated against what he views as dangerous genetic experimentation by scientists since the mid-1970s. Rifkin recently filed suit against the RAC, challenging its authority and ability to approve the release of novel organisms into the environment. NIH has approved three such tests, each to take place under controlled conditions, though none has begun yet.

On September 19, in its first closed meeting, the RAC considered two proposals for tests outside the laboratory. The applications were from private companies—Biotechnica International, of Cambridge, Mass., and Cetus Madison Corp., of Wisconsin, which alone was approved. RAC officials defended the closed session by arguing that proprietary data was discussed. Rifkin sought a court injunction to open the meeting, but was refused by US District Court Judge John Sirica. Rifkin is also trying to get the RAC to require environmental impact statements for each proposed experiment.

Rifkin and his followers last summer organized a petition, carrying signatures of several leaders of religious groups, that called for a moratorium on genetic engineering that could affect the human germ line.

The recent attention has caused some discomfort at the staid and obscure RAC. As one NIH staffer, long associated with the RAC, puts it, "We didn't ask for this." It is well-known that the RAC shuns publicity. RAC members are also mindful that private companies and non-federally funded researchers can turn away from the RAC if so disposed, since the RAC's guidelines are strictly voluntary.

There has been talk in Washington about the RAC's ability to make the next big step into the business of judging what is safe to release into the open. There are no ecologists or plant pathologists on the RAC, for example, although there are six open slots to be filled, and NIH officials are looking for just those specialties to fill some of them. Others argue that the RAC needs more statutory muscle.

Rifkin is pushing for even more radical changes on the RAC. On September 22, he requested that NIH investigate a possible conflict of interest raised by RAC members who are or have been associated with genetic-engineering companies. Winston Brill served as a voting member until June, 1983; he is also Research Director of Cetus, and submitted the research proposal approved September 19, for release of a plant genetically altered to increase its resistance to disease.

David Martin is a current member of the RAC, and is employed by Genentech, the California-based gene engineering company, as Vice President of Research. Rifkin objects that scientists engaged in business are self-interested and would likely approve each others' research proposals.

Bernard Talbot, Deputy Director of the National Institute of Allergy and Infectious Diseases, which oversees the RAC, says there will probably be an internal investigation, but doubts that participation by industrial scientists will be found improper. "These scientists would probably be more likely to reject their competitors' proposals than favor them," Talbot speculates. It is common practice, he noted, for members of NIH's advisory panels that review funding requests to submit proposals. When the time comes for a debate or a vote, they simply remove themselves, says Talbot. "As far as I know, there is no legal argument in NIH's conflict of interest rules that prohibit this," he concludes.

One seasoned voice amid the furor is that of Dr. Donald Fredrickson, NIH Director from 1975 to 1981 and the man who nursed the RAC in its infancy. Now a private citizen, Fredrickson defends the RAC's secrecy over proprietary information, and the need for it to remain a panel of nongovernmental experts meeting under the aegis of NIH, the only governmental body, he adds, that has the "technical elite" to judge new experiments. But the RAC now must evolve further, says Fredrickson. "Representation on the RAC must reflect the needs of the institutions involved...it will have to adapt itself to a new menu."

"[Compliance with] RAC can continue to be voluntary. We are talking about the lab stage now. But once you get past that...there are enough regulatory agencies. Certainly there are gray areas. But the statutes of enablement give the agencies pretty broad powers once it gets out of the lab." Requiring an impact statement for each new experiment "would freeze everything," Fredrickson cautions. "NEPA (the National Environment Policy Act, which governs impact statements) is a dreadful weapon with problems of this sort."—CJ

New AIDS Grants Funded

Six new grants for AIDS research, financed with supplemental funds that Congress forced on an unwilling Administration, have been announced by the Department of Health and Human Services. Federal research on AIDS amounted to about $26 million in the fiscal year just ended.

FASEB Aide Quits in Indirect-Costs Dispute

Walter J. Ellis, Public Affairs Director of the Federation of American Societies for Experimental Biology, has resigned in protest over FASEB's sudden and curious endorsement of efforts to block reform of the federal system for paying overhead costs on academic research grants.

The precipitating event was the participation of FASEB's Executive Director, Robert W. Krauss, last August in preparation of a university-dominated statement that essentially rejected Administration efforts to control the growth of so-called indirect-cost payments (SGR Vol. XIII, No. 15). Ellis, a retired Navy Captain who has held the FASEB post for the past nine years, says that the position reflected in the statement conflicts with the interests of the bench scientists who predominate among FASEB's 27,000 members, and that Krauss had no authority to attach the organization's name to the statement.

Krauss conceded to SGR that he and the FASEB brass hadn't worked out a position on indirect costs prior to the meeting, but that afterwards—apparently in response to fulminations by Ellis—he had consulted with the chiefs of the six societies and one affiliate that make up FASEB, and they supported the statement.

In Ellis's view, shared by many federal research managers, the indirect-costs system has permitted university administrations to pillage funds that Congress intended for research. Often addressing this subject as editor of the FASEB newsletter, Ellis took the position that FASEB is the representative of the individual investigator, a concept that Executive Director Krauss accepts, with the starry-eyed qualification that there's really no divergence of interests between research scientists and university administrators.

Ellis, however, thought otherwise, and argued that the wholesale diversion of research funds, under the label of indirect costs, is detrimental to science and should be resisted. This position is shared by several luminaries of research administration, among them James Wyngaarden, Director of the National Institutes of Health. It is anathema, however, to university administrations, which have come to regard the indirect-cost bundle as a revenue-raising device, rather than reimbursement for expenses incurred in the conduct of research. Writing candidly, and often in colorful language, Ellis drew the enmity of several of the senior mandarins of academic administration, among them Donald Kennedy, President of Stanford. Kennedy, who was co-drafter of the August statement on indirect costs, urged FASEB to crack down on Ellis for a newsletter report that Kennedy characterized as "an extraordinarily divisive document" (SGR Vol. XIII, No. 8).

In his letter of resignation, dated September 20, Ellis noted that "Universities have left no doubt about their priorities when it comes to a choice between full reimbursement of indirect costs and support of a given level of grants, although in the more recent past they have taken the less malodorous approach of pressing for enough money to keep everybody happy and, incidentally, to postpone the day of reckoning."

Noting that "A Government Accounting Office report on indirect costs is expected shortly," Ellis stated, "There is every reason to expect that the report will show that the system for determining indirect costs is, in fact, a non-system which invites abuse and exploitation.

"In view of the above facts," he continued in his letter of resignation to Krauss, "it is inexplicable to me that the Federation, which exists to serve and represent the individual investigator, would, in taking its first official position on the issue, subscribe to the blithe temporizing views and chronically self-serving maneuvers set forth in the August 26 letter of agreement entered into by a group consisting primarily of university administrators and their surrogates....It is noted that this first official position of the Federation on indirect costs did not come before the Board, the Executive Committee or the Public Affairs Committee."

Ellis pitched his resignation to "acute professional embarrassment that this should have happened in an organization in which I have staff responsibility for public affairs." No doubt he did feel embarrassed. But more basic than that was the fact that he wouldn't follow the party line in defending a system that is overrun with abuses. His time was up.—DSG

In Print

The Professional Environment in Army Laboratories and its Effect on Scientific and Engineering Performance, report of a study conducted for the Army by a committee of the National Academy of Sciences; tries to be polite and encouraging, but leaves the impression that the Army's research system needs an overhaul; (78 pages, available without charge from Commission on Engineering and Technical Systems, NAS, 2101 Constitution Ave., Nw., Washington, DC 20418).

Two new publications from the Congressional Office of Technology, both available from the US Government Printing Office: *US Natural Gas Availability* and *Plants: The Potential for Extracting Protein, Medicines, and Other Useful Chemicals.*

Commentary: The Science Education Stampede

Gloomy returns from many inquiries into the general condition of science education leave no doubt of the need for major improvements in learning standards and financial support.

But the difficulty with many of these inquiries is that they're carried out by science enthusiasts—and like enthusiasts of various persuasions, they sometimes are prone to hallucinate about the nirvana that would result from mass conversion to their way of thinking.

There is little evidence, for example, of a direct relationship between the admittedly poor current state of science education and the soggy condition of much of the American economy. In fact, many persons who have been well-educated in the sciences—industrial engineers and biologists prominent among them—are equally unemployed along with teenage school dropouts, as Betty Vetter, Executive Director of the Scientific Manpower Commission, recently pointed out in SGR (Vol. XIII, No. 14). Computer specialists remain in demand, but they amount to a tiny slice of the national work force, and the demand has been lessening lately.

While science educators and their industrial friends proclaim a need for a high level of scientific and technical training in the workforce, the Department of Labor says that the biggest job growth over the next ten years will be in fields with little or no technical content—construction, food service, janitoring, and general office work. Thus, according to the Bureau of Labor Statistics, the long-heralded high-tech revolution isn't going to do much for unemployment, as can be seen from the accompanying table. A forecast of this type is likely to be overtaken by more than a few surprises, but that's no excuse for attempting to stuff the general population with large doses of mathematics and hard sciences.

The notion that science education creates better citizens is often spouted by the people who in one way or another are involved with providing such education, but never yet have they produced serious evidence in behalf of that proposition. In terms of the politics of education, it didn't matter much, since the citizenship argument is weak stuff for loosening up funds for the relatively high costs of pre-college science education. The economic argument, however, is a powerful one, as can be seen from the blossoming faith that a science-educated citizenry is indispensable to national prosperity.

Thus, a new study, supported by the National Science Foundation, asserts that a massive expansion and improvement of science education is necessary to protect "the quality of our manufactured products, the viability of our trade, our leadership in research and development, and our standards of living." Among the recommended changes are a "substantially lengthened" school day to accommodate additional science and math education, and special pay increases for teachers in those fields.

Since the Science Foundation study, "Educating America for the 21st Century," was conducted mainly by scientists, it might be expected to offer some evidence of lack of education as an impediment to economic revival. It offers a bit, but it's hardly persuasive: A survey of industrial firms turned up many complaints about the math and science backgrounds of recent high school graduates.

But, as the study reported, "the lack of adequate preparation for work of current high school graduates

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Forecast for Traditional Jobs

	1980 employment	Projected growth, 1980-90	Percent growth
Secretaries	2,469,000	700,000	28.3%
Nurses' aides, orderlies	1,175,000	508,000	43.2
Janitors, sextons	2,751,000	501,000	18.2
Sales clerks	2,880,000	479,000	16.7
Cashiers	1,597,000	452,000	28.4
Professional nurses	1,104,000	437,000	39.6
Truck drivers	1,696,000	415,000	24.5
Fast-food workers	806,000	400,000	49.6
General office clerks	2,395,000	377,000	15.8
Waiters, waitresses	1,711,000	360,000	21.1
Elementary teachers	1,286,000	251,000	19.5
Kitchen helpers	839,000	231,000	27.6
Accountants, auditors	833,000	221,000	26.5
Construction helpers	955,000	212,000	22.2
Automotive mechanics	846,000	206,000	24.4
Blue-collar supervisors	1,297,000	206,000	15.9
Typists	1,067,000	187,000	17.5
Licensed practical nurses	522,000	185,000	35.5
Carpenters	970,000	173,000	17.9
Bookkeepers	975,000	167,000	17.2

And Outlook for Computers

	1980 employment	Projected growth, 1980-90	Percent growth
Data processing mechanics	83,000	77,000	92.3%
Computer operators	185,000	133,000	71.6
Computer analysts	205,000	139,000	67.8
Office machine servicers	55,000	33,000	59.8
Computer programmers	228,000	112,000	48.9

Source: Bureau of Labor Statistics

...A Dissenting View on Computer "Revolution"

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has not been serious enough to affect most company operations." The one in five firms afflicted by such educational inadequacies responded with in-service remedial programs—which is not unusual when firms seek to mold their staffs to their particular needs.

Without even a nod to mounting evidence that there's more glitter than education in the highly vaunted computer "revolution" in the schools, the Science Foundation study embraces computers as a kind of miracle cure for numerous ills of our society. In fact, it becomes so gushy over the pace of computer developments that it says of them, "Almost any statement made today will, therefore, be obsolete in a few years, if not months."

Perhaps. But one of today's statements about computers and schools that might be considered comes from yet another study of the woes of education, "High School, A Report on Secondary Education in America," by the Carnegie Endowment for the Advancement of Teaching. In a rare departure from the chorus of enthusiasm for computers, Ernest L. Boyer, the former US Commissioner of Education who conducted the study for Carnegie, sensibly points out that "Technology revolutions have failed to touch the schools largely because purchases frequently have preceded planning." The result has been heaps of expensive equipment—often adding to the prestige of the school—but with little educational value.

Boyer doesn't dismiss the computer's educational potential, but he does eye it with scarce and refreshing skepticism, noting that one need not know much about a computer to use it effectively—such being the nature of much modern technology, from TV sets to automatic transmissions. Students going on to technical professions should master the innards of the wondrous new machines, he states; others can spend time more profitably on other subjects.

What's curious about the promotion of science education and computers as the keys to economic revival is the unquestioning deference that the press confers on missionaries for the cause. Thus, news accounts took little or no note of the leadership of the Science Foundation study which produced the report equating national survival with computer training and usage. The study was commissioned by the Chairman of the Foundation's policymaking board, Lewis Branscomb, whose fulltime occupation is vice president and chief scientist of IBM, the world's leading computer manufacturer. The study was co-chaired by William T. Coleman, Jr., a member of the Board of IBM.

Their integrity and dedication to public service are not open to question. But their tunnel-visioned concept of the route to economic revival does invite curiosity.

Our society will, of course, require large numbers of scientists, engineers, and technicians. And, it's clear that, in general, the schools have performed poorly in starting students toward these careers.

But, given what seems to lie ahead in the job markets, it is foolish as well as cruel to lead young people to believe that academic accomplishment in these relatively difficult fields will lead to professional success.—DSG

The High-Tech Junk Heap

The following excerpt is from "High School: A Report on Secondary Education," by Ernest L. Boyer ($15, Harper & Row):

●

Educators with long memories will say [about computers], "Here we go again." They recall that virtually every new piece of new hardware introduced into the schools in the past three decades has been oversold, misused, and eventually discarded...

In the early 1950s, the so-called "teaching machines" were heralded as the miracle cure for education. These devices, educators were told, were the most important invention since the printing press. A stunning new world of learning was just around the corner....

Teachers reacted with suspicion. The machines, they said, would dehumanize the classroom. As it turned out, the suspicions were well placed. Teaching machine materials were afflicted with a kind of behaviorist-industrial jargon—such as operant conditioning, contiguous association, and multimedia packages—that seemed strikingly out of place in the school. The miracle came and went.

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House Rebuffs Administration Cuts for NIH

The new fiscal year budget for the National Institutes of Health has passed through the House with a major increase beyond what the Administration sought, plus money and a go-ahead to keep paying indirect costs at the generous old rate. That last provision represents a major victory for the presidents of big-time academe, who lobbied hard to defeat cost-cutting efforts by the Office of Management and Budget and the NIH.

The Administration, in expectation of Congressional generosity, proposed only a trifling increase for NIH, $71 million atop the current budget of some $4 billion. To keep things going at that inflation-lagging figure, a 10-percent cut in indirect cost payments was mandated, along with reductions that, according to NIH, translated into shutdowns for numerous research activities around the country. In addition, NIH insisted that without budgetary relief it would have to fall some 1500 grants below the sacred figure of 5000 new and competing renewals per year.

The House, of course, would have none of that, and went along with the report of the sympathetic Appropriations Subcommittee that presides over NIH budgetary affairs. The result was passage, on September 23, of a bill that provides $4.3 billion for NIH, which represents a healthy 10-percent-plus increase.

The Subcommittee report, which is crucial for doping out what the Congress has in mind beyond the sparse language of appropriations bills, is altogether friendly to NIH. Thus, noting the practice of trimming research awards to stretch available funds, the report states that the Administration aims to take away too much with its plan for cutting 6 percent from non-competing projects and 11.3 percent from competing project. "The Committee believes that forced and arbitrary reductions of this magnitude are unwise," the report states—and backs up its sentiments with "an additional $135 million to enable NIH to pay on the average approximately full direct costs of non-competing projects and 96 percent of costs for competing projects..."

For full payment of indirect costs, the Committee added $77 million to the Administration's request, but expressed concern about "the rate at which these costs are escalating." It noted, too, that it "is not convinced that the present system for calculating these costs is equitable or sufficiently uniform to be fair to all institutions." Further study by the Administration, "in consultation with administrators and scientists at representative grantee institutions," was recommended as a step toward development of a government-wide policy for calculating indirect costs.

Finally, the Committee report noted with satisfaction that the Administration had reversed an earlier decision to support only 3676 new and competing grants next year, rather than 5000. The White House had intended to finance the higher figure by cutting elsewhere in the NIH budget, but the Committee came up with another verdict—5000 without cuts elsewhere. The House had no quibbles with that. Still to be heard from is the Senate, where the counterpart Appropriations Committee was marking up its version of the NIH bill as this was going to press.

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